A NEW GENUS AND SPECIES OF PALLOPTERIDAE (DIPTERA, SCHIZOPHORA) FROM PAPUA.

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(Three Text-figures.)

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Synopsis.

Hypsomyia goilala, a new species representing a new genus of the family Pallopteridae, is described from the mountains of Papua. The genus is remote geographically and morphologically from any previously known pallopterid genus. Some notes on its habitat are given.

Genus Hypsomyia nov.

Occiput convex; face with a prominent median carina for its full length; fronto-orbitals present; outer vertical not distinguished from post-ocular setulae. Thorax with one pair of dorsocentrals, prescutellar acrostichals, mesopleural, and one sternopleural; no presutural; scutellum not haired. Legs with preapical dorsal bristle on middle tibia only. Wing with Sc and vein 1 strongly diverging distally; vein 1 setulose above distally from level of end of Sc; vein 6 reaching to margin but weak distally.

Type species: *Hypsomyia goilala* nov.

Hypsomyia goilala, sp. nov.

♂♀. Head deep reddish-brown; upper half of occiput black; face, anterior part of cheeks and parafacials whitish-pruinescent, the pruinescence extending narrowly up the anterior lateral margins of frons; upper part of third antennal segment and arista blackish; hairs and bristles black. Thorax brown-black; pleura largely grey pruinescent; mesoscutum with a complete grey-dusted median band and a pair of irregular lateral bands interrupted at suture and just behind humeral callus. Legs brown-black; the coxae reddish-brown. Wings brownish-hyaline with blackish markings as follows: a small spot on base of M_{3+4} (vein separating discal and second basal cells); a larger spot just beyond fork of veins 2 and 3; a spot at end of vein 1, extending to vein 2; a more diffuse spot at end of vein 2, extending over vein 3; a mark surrounding anterior crossvein and another surrounding posterior crossvein. Halteres brown-black. Abdomen black.

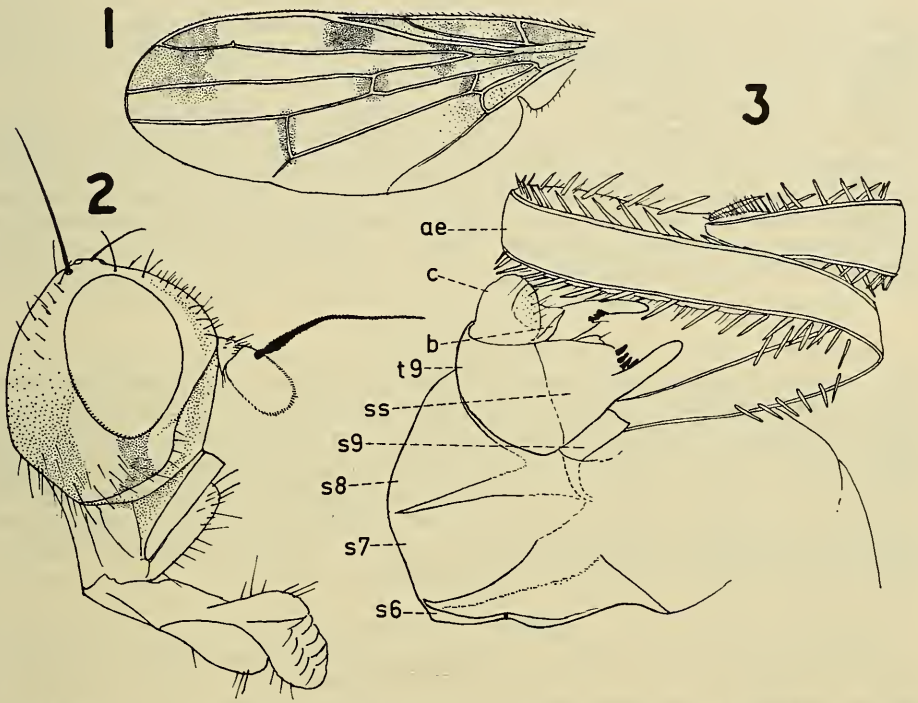
Cheek nearly half as high as eye; a distinct but shallow antennal groove on each side of the facial carina; two fronto-orbitals, rather short, especially the anterior one, sloping outwards, the posterior one also reclinate; ocellars as long as posterior fronto-orbital; postverticals shorter, curved forwards; frons with numerous scattered setulae; a series of fine anterior cheek setulae, extending round vibrissal angle and a number of longer posterior cheek setulae. Third antennal segment about one and a half times as long as wide, broadly rounded distally; arista but slightly longer than rest of antennae, finely pubescent, somewhat thickened basally. Palpi rather slender, setulose.

Mesoscutum setulose, the intradorsocentral setulae in about four irregular series; mesopleuron with rather numerous long setulae, one or two often approaching mesopleural bristle in size; sternopleuron with few, scattered fine setulae; prosternum broad, setulose laterally, without precoxal bridges; the following thoracic bristles present: one pair of posterior dorsocentrals, prescutellar acrostichals, humeral, two notopleurals, two supra-alars, posterior intra-alar, a rather fine propleural, long mesopleural, one sternopleural, two subequal scutellars. Front femur with numerous long

bristles on posterior surface including about four posteroventral bristles; hind femur with a weak preapical dorsal bristle. Costa without bristles or major spines on any part, a series of minute black spinules on anterior surface terminating just beyond end of vein 2; costal index 3·3–3·8; fourth vein index 1·5–1·6.

Abdomen broad; preabdomen of five segments, the first two tergites fused; spiracles situated at junction of tergites with pleural membrane.

Male postabdomen with sixth tergite obsolete; sixth sternite ventral, asymmetrical, joined to seventh and eighth sternites on left side; ninth sternite smaller than eighth; surstyli broad basally, narrowed into an obtuse finger-like process distally, with three or four black spines posteriorly at base of process; ninth sternite produced into a



Figures 1-3. *Hypsomyia goilala,* sp. nov. 1, wing of holotype. 2, head of holotype. 3, postabdomen of paratype ♂, ventral aspect (hypopygium twisted to right through reversal of circumversion during clearing). *ae,* aedeagus. *b,* bacilliform sclerite. *c,* cercus. *s6-s9,* sternites 6-9. *ss,* surstylus. *t9,* tergite 9.

short, broad process on each side of base of aedeagus; aedeagus strap-like, coiled, with a pigmented strip along each margin and with two series of spines which become coarser distally; cerci short, haired.

Female postabdomen of the usual lonchaeid type, with sheath-like seventh segment and fused cerci.

Dimensions: Total length, ♂ 3·2–4·1 mm.; ♀ 3·4–3·5 mm.; length of thorax, ♂ 1·4–1·7 mm; ♀ 1·5–1·8 mm.; length of wing, ♂ 4·0–4·6 mm.; ♀ 4·1–4·8 mm.

Distribution: Highlands of the Central District, Papua.

Material Examined: Sidibamul, Murray Pass, Wharton Range, 10,000 ft., Oct. 14, 1963 (holotype ♂, paratypes 2 ♂, 1 ♀), Oct. 15, 1963 (paratypes 4 ♂, 2 ♀), coll. D. K. McAlpine.

Location of Types: Australian Museum. Through the courtesy of the Trustees of the Australian Museum a paratype will be lodged in the British Museum (Natural History), one in the United States National Museum, and one in the Entomology collection, Department of Agriculture, Stock, and Fisheries, Konedobu, T.P.N.G.

Relationships and Origin.

Though there are few characters that are unique among the Pallopteridae, the combination of characters in *Hypsomyia* suggests that it is not closely related to any other known genus. The absence of the outer vertical bristles and the presence of setulae on vein 1 do appear to differentiate it from all other pallopterid genera. It further differs from all other genera except the European *Eurygnathomyia* in the presence of preapical bristles on the middle tibia, and from all except the Nearctic *Omomyia* in possessing a prominent median facial carina. It is distinguished from *Eurygnathomyia* further by the non-spinose costa and possession of only one dorsocentral, and from *Omomyia* by the short scutellum and distinct fronto-orbitals.

Geographically the nearest genus is *Neomaorina* from New Zealand, but this differs in having two dorsocentrals, a presutural, three sternopleurals, no mesopleural, narrow subcostal cell, vein 6 incomplete, and in other details. Clearly *Neomaorina* is very distantly related to *Hypsomyia*.

Hypsomyia is the first pallopterid to be recorded from the tropics.* The absence of any records of Pallopteridae from Australia or the Oriental Region further prevents any deduction as to its geographical origin. As fairly extensive collecting of Diptera in alpine country in Australia has been carried out, it is probable that Pallopteridae are absent there. On the other hand they may well be present on high mountains of Indonesia and South East Asia, and it is here that one may expect forms related to *Hypsomyia* to be found in the future.

Notes on Habitat.

Sidibamul is not an actual settlement, but consists only of a mission-owned rest house used by travelling missionaries for overnight shelter. The vegetation consists of low alpine shrubs and herbs with scattered tree-ferns, and patches of sphagnum. Nearby are areas of high moss forest. The open country has been produced, or at least increased, by the natives' habit of setting fire to the vegetation whenever visiting the locality. All the specimens of *Hypsomyia* were taken in the open country by sweeping the vegetation. At this altitude (about 10,000 ft.) the sky is usually overcast; light rain and mists at ground level are frequent. Temperatures are never high, but no frost was experienced during the author's visit.

Acknowledgements.

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Reference.

Hennig, W., 1952.—Die Larvenformen der Dipteren, 3: VII + 628 pp.

* Dr. Hennig has kindly informed the author in correspondence that his reference to certain pallopterid genera as "chilenisch-papuanisch" (Hennig, 1952) is an error for "chilenisch-patagonisch".